PERCEPTION

VOLUME 23 1994

Editor-in-Chief: Richard L Gregory
Associate Editors: John Harris, Tom Trościanko
Book Reviews Editor: Priscilla Heard
Perceptual Systems Research Centre, Department of Psychology, University of Bristol, 8 Woodland Road, Bristol BS8 1TN, England
Associate Editor for America: Suzanne McKee
Smith-Kettlewell Eye Research Institute, 2232 Webster St, San Francisco, CA 94115, USA
Associate Editor for Australia: Peter Wenderoth
School of Behavioural Sciences, Macquarie University, North Ryde, NSW 2109, Australia

Editorial Board
Stuart M Anstis, Department of Psychology, University of California at San Diego, La Jolla, CA 92093, USA
Horace B Barlow, Kenneth Craik Laboratory, Department of Physiology, University of Cambridge, Cambridge CB2 3EG, UK
Paul Bertelson, Université Libre de Bruxelles, 1050 Bruxelles, Belgium
Colin Blakemore, University Laboratory of Physiology, Oxford OX1 3PT, UK
Oliver Braddick, Department of Psychology, University College London, London WC1E 6BT, UK
David Burr, Istituto di Neurofisiologia del CNR, Via S Zeno 51, 56100 Pisa, Italy
Paul M Churchland, B-002 University of California at San Diego, La Jolla, CA 92093, USA
John P Frisby, Department of Psychology, University of Sheffield, Sheffield S10 2TN, UK
Sir Ernst Gombrich, 19 Briardale Gardens, London NW3 7PN, UK
Richard Held, Department of Psychology, MIT E10-137, Cambridge, MA 02139, USA
Ellen Hildreth, Artificial Intelligence Laboratory, MIT, Cambridge, MA 02139, USA
Gunnar Johansson, Psykologiska Institutionen, Universitet i Uppsala, Box 227, S 751 04 Uppsala, Sweden
Aimable R Jonkheere, University College London, London WC1E 6BT, UK
Bela Julesz, Department of Psychology, Rutgers University, Piscataway, NJ 08854, USA
Jan J Koenderink, Fysisch Laboratorium, 3508 TA Utrecht, The Netherlands
Michael Morgan, Institute of Ophthalmology, University of London, London EC1V 9EL, UK
Ken Nakayama, Department of Psychology, Harvard University, Cambridge, MA 02138, USA
Tadasu Oyama, Department of Psychology, College of Humanities and Sciences, Nihon University, Sakurajosui, Setagayaku, Tokyo 156, Japan
Irvin Rock, Department of Psychology, University of California, Berkeley, CA 94720, USA
Igor A Shevelev, Institute of Higher Nervous Activity and Neurophysiology, 117865 Moscow, USSR
Lothar Spillmann, Neurologische Universitätsklinik, W-7800 Freiburg i. Br., Germany
N Stuart Sutherland, University of Sussex, Falmer, Brighton, Sussex, UK

Printed in Great Britain

Copyright © 1994 by Pion Limited
No part of this volume may be reproduced in any form by print, photostat, microfilm by retrieval system, or any other means without written permission from the publisher

Pion Limited, 207 Brondesbury Park, London NW2 5JN, England

Contents

Number 1

Editorial: Objects 1

The perception of spatial structure with oblique viewing: an explanation for Byzantine perspective? 5
Jan B Deręgowski, Denis M Parker, Manfredo Massironi

Binocular rivalry disrupts stereopsis 15
Richard A Harrad, Suzanne P McKee, Randolph Blake, Yuede Yang

Texture capture in Necker cubes 29
Glenn E Meyer, Christine E Howard

Test of balanced transparency 37
Mami Fukuda, Sergio C Masin

Saccadic eye movements of dyslexic and normal reading children 45
Monica Biscaldi, Burkhart Fischer, Franz Aiple

Configurational factors in the perception of unfamiliar faces 65
Graham J Hole

Visual processing of facial distinctiveness 75
Philip J Benson, David I Perrett

Impact of quality of the image. orientation, and similarity of the stimuli on visual search for faces 95
Sally M Kuehn, Pierre Jolicoeur

Reviews 123

Number 2

Editorial: Dogmas 127

Spatial content and spatial quantisation effects in face recognition 129
Nicholas P Costen, Denis M Parker, Ian Craw

Anomalous and luminance contours produce similar angular induction effects 147
Ernest Greene, Marja Verloop

Coactivation and statistical facilitation in the detection of lines 157
Wolfgang Schwarz, Anja Ischebeck

Shape from shading. I: Surface curvature and orientation 169
Alan Johnston, Peter J Passmore

Shape from shading. II: Geodesic bisection and alignment 191
Alan Johnston, Peter J Passmore

The size illusion in children from five years of age and adults 201
Judith I Laszlo, Jannine M Begg, Kim M Sainsbury

Convergence as a cue for distance 207
Alexander D Logvinenko, Viktor I Belopolskii

A comment on Clement (1992): "Gaze angle explanations in the induced effect" 219
John Porrill, John Mayhew

The salience of vertical symmetry 221
Peter Wenderoth

Visual search for global and local stimulus features 237
Jukka Saarinen

28 576HI XL 572
12/95 31249-100

An illusory stone pillar seen in the real world 245
J A Wilson

Reviews 247

Conferences 248

Number 3

Editorial: Illusion delusion 249

Visual perception of intentional motion 253
Winand H Dittrich, Stephen E G Lea

Long-range apparent motion as a result of perceptual organisation 269
Tadasu Oyama, Katsuo Naito, Hiromi Naito

Prospective control in catching by infants 287
Audrey L H van der Meer, F R (Ruud) van der Weel, David N Lee

Convergence responses to monocularly viewed objects: implications for distance perception 303
John Predebon

The natural moon illusion: a multifactor angular account 321
Cornelis Plug, Helen E Ross

A dissociation between reaction time to sinusoidal gratings and temporal-order judgment 335
Thomas Tappe, Michael Niepel, Odmar Neumann

Perceptual dependence for shape and texture during haptic processing 349
Catherine L Reed

Reviews 367

Number 4

Perpetual organisation and object recognition 1

Guest editorial: Perceptual organisation and object recognition—POOR is the acronym, rich the notion 371

A computational examination of image segmentation and the initial stages of human vision 383
Roger Watt

The computation of contour information in complex objects 399
Muriel Boucart, Sandrine Delord, Anne Giersch

Human pattern recognition: parallel processing and perceptual learning 411
Manfred Fahle

Endogenous and exogenous control of visual selection 429
Jan Theeuwes

Effects of attention on perception of features and figural organisation 441
Yehoshua Tsal

Parallel visual coding in three dimensions 453
Glyn W Humphreys, Nicole Keulers, Nick Donnelly

Visual separability: a study on unschooled adults 471
Régine Kolinsky, José Morais, Arlette Verhaeghe

Reviews 487

Number 5

Perpetual organisation and object recognition 2

The role of wholistic/configural properties versus global properties in visual form perception 489
Ruth Kimchi

From geons to structure. A note on object representation 505
Emanuel Leeuwenberg, Peter Van der Helm, Rob Van Lier

Local and global factors in visual occlusion 517
Frans Boselie

Local and global minima in visual completion: effects of symmetry and orientation 529
Allison B Sekuler

Invariance from the Euclidean geometer's perspective 547
Luc J Van Gool, Theo Moons, Eric Pauwels, Johan Wagemans

Aspect graphs for visual recognition of three-dimensional objects 563
Thierry Van Effelterre

On so-called paradoxical monocular stereoscopy 583
Jan J Koenderink, Andrea J van Doorn, Astrid M L Kappers

Object recognition under sequential viewing conditions: evidence for viewpoint-specific recognition procedures 595
Rebecca Lawson, Glyn W Humphreys, Derrick G Watson

Number 6

Editorial: Paradigms for creativity 615

A new twist on the rotating-trapezoid illusion: evidence for neural-adaptation effects 619
Gerald M Long, Thomas C Toppino

Do young children reverse ambiguous figures? 635
Irvin Rock, Alison Gopnik, Susannah Hall

Cue conflict and stereoscopic surface slant about horizontal and vertical axes 645
Colin Ryan, Barbara Gillam

On the contribution of a binocular 'AND' channel at contrast threshold 659
Laurie M Wilcox, Brian Timney, Michele Girash

The effect of knowledge of object distance on accommodation during instrument viewing 671
John C Kotulak, Stephen E Morse, Roger W Wiley

Detecting changes in one's own velocity from the optic flow 681
Jos Monen, Eli Brenner

The Hermann grid illusion: a tool for studying human perceptive field organization 691
Lothar Spillmann

Factors limiting large-scale localisation 709
Yvonne Sterken, Alexander Toet, Yen-Lee Yap

A note on "Gravity as a monocular cue for perception of absolute distance and/or absolute size" 727
James R Tresilian

In defense of "Gravity as a monocular cue for perception of absolute distance and/or absolute size" 733
Constance S Royden

Reviews 737

Number 7

Editorial: Under the carpet 741

Vection: the contributions of absolute and relative visual motion 745
Ian P Howard, Antonie Howard

The contribution of motion, the visual frame, and visual polarity to sensations of body tilt 753
Ian P Howard, Laura Childerson

Perception of motion in depth from luminous rotating spirals: directional asymmetries during and after rotation 763
Anthony H Reinhardt-Rutland

Binocular rivalry and fusion under scotopic luminances 771
Robert P O'Shea, Randolph Blake, Jeremy M Wolfe

Angular induction as a function of the length and position of segments and gaps 785
Ernest Greene, Daniel Levinson

The use of pigmentation and shading information in recognising the sex and identities of faces 803
Vicki Bruce, Steve Langton

Facial aesthetics: babies prefer attractiveness to symmetry 823
Curtis A Samuels, George Butterworth, Tony Roberts, Lida Graupner, Graham Hole

Tactual object exploration and recognition in blind and sighted children 833
Barbara A Morrongiello, G Keith Humphrey, Brian Timney, Jean Choi, Patrick T Rocca

The relationship between time of arrival of nontargets and their spatial location: evidence for asymmetries in visual attentional processing 849
Kieran Coyle

On the microgenesis of illusory figures: a failure to replicate 857
Theodore E Parks

Reviews 863

Number 8

Editorial: Textual criticism 867

Lightness perception can be affected by surface curvature from stereopsis 869
David Buckley, John P Frisby, Jonathan Freeman

Integrating global and local aspects of visual occlusion 883
Rob van Lier, Peter van der Helm, Emanuel Leeuwenberg

Three-dimensional illusory objects produced by rotation in depth 905
Ilpo Kojo, Marja Liinasuo, Jyrki Rovamo

Intraattribute and interattribute motion induction 913
Michael von Grünau, Jocelyn Faubert

Spatial reference systems in the comprehension of rotational motion 929
John R Pani, Davido Dupree

Estimation of time to vehicle arrival—effects of age on use of available visual information 947
Errol R Hoffmann

Dichoptically viewed colour aftereffects produced by monocular adaptation 957
André Delorme

Melodic cues for metre 965
Piet G Vos, Arjan van Dijk, Lambert Schomaker

Reviews 977

Conferences 980

Number 9

Guest editorial: Hermann von Helmholtz (1821 – 1894) 981

The perception of luminosity on different backgrounds and in different illuminations 991
Frederick Bonato, Alan L Gilchrist

Trade-off between achromatic colour and perceived illumination as revealed by the use of pseudoscopic inversion of apparent depth 1007
Alexander Logvinenko, Galina Menshikova

Binocular displacement of unpaired region 1025
Hiroshige Takeichi, Hitoshi Nakazawa

Visual directions of two stimuli in Panum's limiting case 1037
Sachio Nakamizo, Koichi Shimono, Michiaki Kondo, Hiroshi Ono

Ambiguous pictorial depth cues and perceptions of nonrigid motion in the three-loop figure 1049
Jack Broerse, Rongxin Li, Roderick Ashton

Pseudophakes experience apparent minification in an imaging display 1063
James W Meehan, George Smith, Ross H Day

Aftereffects of apparent motion: the existence of an AND-type binocular system in human vision 1069
Noud A W H van Kruysbergen, Charles M M de Weert

A model for identifying the perceptual centre of polygons 1085
Marco Davi

Letter
Ethics, capital punishment, and pseudoscience Alexander H Wertheim 1097
Editor's comments 1099

Reviews 1101

Number 10
Editorial: A peculiar Optical Phænomenon 1107

A selective history of the study of visual motion aftereffects 1111
Nicholas J Wade

Experiments on the afterimages of stimulus change (Dvořák 1870): A translation with commentary 1135
Jack Broerse, Peter C Dodwell, Walter H Ehrenstein

The duration of the movement aftereffect as an index of psychiatric illness 1145
John Harris

Motion aftereffects with random-dot chequerboard kinematograms: Relation between psychophysical and VEP measures 1155
Eugene R Wist, Jörg D Gross, Michael Niedeggen

The role of the blobs in determining the perception of drifting plaids and their motion aftereffects 1163
Peter Wenderoth, David Alais, Darren Burke, Rick van der Zwan

Ensemble models of the movement aftereffect and the influence of eccentricity 1171
Wim A van de Grind, Frans A J Verstraten, Karin M Zwamborn

A transparent motion aftereffect contingent on binocular disparity 1181
Frans A J Verstraten, Reinder Verlinde, R Eric Fredericksen, Wim A van de Grind

Spatial integration in coherent motion detection and in the movement aftereffect 1189
Richard J A van Wezel, Frans A J Verstraten, R Eric Fredericksen, Wim A van de Grind

Interocular transfer of expansion, rotation, and translation motion aftereffects 1197
Vicki Steiner, Randolph Blake, David Rose

The effects of displacement size and frame duration on the motion-incoherence aftereffect 1203
Jane E Raymond

The duration of the motion aftereffect following adaptation to first-order and second-order motion 1211
Timothy Ledgeway, Andrew T Smith

Contribution of colour to the motion aftereffect and motion perception 1221
Tom Trościanko

The role of intervening patterns in the storage of the movement aftereffect 1233
Peter Thompson, Justin Wright

Apparent depth with motion aftereffect and head movement 1241
Hiroshi Ono, Hiroyasu Ujike

Auditory aftereffects following simulated motion produced by varying interaural intensity or time 1249
Walter H Ehrenstein

Frames of reference and motion aftereffects 1257
Michael T Swanston

Number 11

Guest editorial: 150 words on consciousness 1265

Binocular vision enhances target detection by filtering the background 1267
Bruce Schneider, Giampaolo Moraglia

Spatial displacement limits for cyclopean (stereoscopic) apparent-motion perception 1287
Ray Phinney, Robert Wilson, Brian Hays, Kristi Peters, Robert Patterson

The familiar-size cue to depth under reduced-cue viewing conditions 1301
John Predebon, Jacob Steven Woolley

Difference of spatial frequency selectivity between static and flicker motion aftereffects 1313
Hiroshi Ashida, Naoyuki Osaka

Water-level representation by men and women as a function of rod-and-frame test proficiency and visual and postural information 1321
Michèle Robert, Théophile Ohlmann

A comparison between the hollow-face and 'hollow-potato' illusions 1335
Harold Hill, Vicki Bruce

Structural description theories: Is RBC/JIM a general-purpose theory of human entry-level object recognition? 1339
Matthew A Kurbat

Modality-specific differences in the processing of spatially, temporally, and spatiotemporally distributed information 1369
Doug Mahar, Brian Mackenzie, Don McNicol

Conferences 1387

Number 12

Editorial: Experiment for a desert island 1389

Temporal properties of colour and shape priming: evidence of multiple components of attention 1395
Jari Laarni, Jukka Häkkinen

The dependence of two-dimensional shape perception on orientation 1409
Irvin Rock, Charles Schreiber, Tony Ro

Infants perceive spatial structure specified by line junctions 1427
Albert Yonas, Martha E Arterberry

Stereokinetic effects with sharp and fuzzy illusory contours 1437
Roberto Masini, Mario Ferraro, Tommaso Costa

Updating after rotational and translational body movements: coordinate structure of perspective space 1447
Clark C Presson, Daniel R Montello

The role of surface information in object recognition: studies of a visual form agnosic and normal subjects 1457
G Keith Humphrey, Melvyn A Goodale, Lorna S Jakobson, Philip Servos

Haptic discrimination of doubly curved surfaces 1483
Astrid M L Kappers, Jan J Koenderink, Susan F te Pas

Reviews 1491

Author index 1495

Subject index 1502